



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,779	07/02/2002	Anders Dahlqvist	0093/000003	7114

26474 7590 05/09/2006

NOVAK DRUCE DELUCA & QUIGG, LLP  
1300 EYE STREET NW  
SUITE 400 EAST TOWER  
WASHINGTON, DC 20005

EXAMINER

ROBINSON, HOPE A

ART UNIT PAPER NUMBER

1656

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

APPLICATION NO/ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
--------------------------------	-------------	---	---------------------

EXAMINER
----------

ART UNIT	PAPER
----------	-------

050406

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

The sequence listing filed on November 18, 2005 does not comply with the sequence rules see the attached error report and notice to comply.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825; applicant's attention is directed to the final rule making notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). To be in compliance, applicant is required to identify all amino acid sequences of at least 4 L-amino acids and at least 10 nucleotides by a sequence identifier, i.e., "SEQ ID NO:". The sequence listing provided has errors therefore, applicant must provide a computer readable form of the "Sequence Listing" including these sequences, a paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification, and a statement that the content of the paper and computer readable form copies are the same and, where applicable, include no new matter as required by 37 CFR 1.821(e) or 1.821(f) or 1.821(g) or 1.821(b) or 1.825(d). See the attached Notice to Comply with the sequence rules.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope A. Robinson whose telephone number is 571-272-0957. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr, can be reached at (571) 272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hope Robinson, MS  
Patent Examiner

**HOPE A. ROBINSON**  
**PATENT EXAMINER**

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING  
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☒ 7. Other: See Raw Sequence Listing Error Report

**8. Applicant Must Provide:**

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g).

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216 or (703) 308-2923
- For CRF Submission Help, call (703) 308-4212
- For PatentIn software Program Support:
  - HELP DESK: (703) 739-8559, ext 508, M-F, 8 AM to 5 PM EST except holidays
  - Email: [PATIN21HELP@uspto.gov](mailto:PATIN21HELP@uspto.gov)
  - To purchase PatentIn software: (703) 306-2600

**PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE**

## **STIC Biotechnology Systems Branch**

### **RAW SEQUENCE LISTING** **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/937, 779 A  
Source: TFW16  
Date Processed by STIC: 11/18/2005

**THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.**

**PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

**FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221**

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:**

**<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail. Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom. Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

- 1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)**
- 2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**
- 3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05): U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314**

Revised 01/24/05

## Raw Sequence Listing Error Summary

### ERROR DETECTED

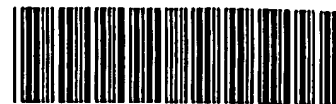
### SUGGESTED CORRECTION

SERIAL NUMBER:

09/937,779 A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1      Wrapped Nucleics    The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 1      Wrapped Aminos
- 2      Invalid Line Length    The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3      Misaligned Amino    The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 3      Numbering
- 4      Non-ASCII    The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5      Variable Length    Sequence(s)      contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6      PatentIn 2.0    A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)     . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 6      "bug"
- 7      Skipped Sequences    Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence:  
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
(i)        SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
This sequence is intentionally skipped  
  
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 7      (OLD RULES)
- 8      Skipped Sequences    Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence.  
<210> sequence id number  
<400> sequence id number  
000
- 8      (NEW RULES)
- 9      Use of n's or Xaa's    Use of n's and/or Xaa's have been detected in the Sequence Listing.  
(NEW RULES)    Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10      Invalid <213>    Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or  
Response    scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11      Use of <220>    Sequence(s)      missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12      PatentIn 2.0    Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 12      "bug"
- 13      Misuse of n/Xaa    "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IFW16

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

3 <110> APPLICANT: Dahlgvist, Anders  
 4 Stahl, Ulf  
 5 Lenman, Marit  
 6 Banas, Antoni  
 7 Ronne, Hans  
 8 Stymne, Sten

Does Not Comply  
 Corrected Diskette Needed

(pg - 1 - 17)

10 <120> TITLE OF INVENTION: PROCESSES FOR PRODUCING TRIACYLGLYCEROL USING GENES THAT  
 ENCODE  
 11 PHOSPHOLIPID:DIACYLGLYCEROL ACYLTRANSFERASES  
 13 <130> FILE REFERENCE: BASFnae337799PCT1-15  
 15 <140> CURRENT APPLICATION NUMBER: US 09/937779A  
 C--> 17 <141> CURRENT FILING DATE: 2002-07-02  
 17 <150> PRIOR APPLICATION NUMBER: PCT / EP 00 / 02701  
 18 <151> PRIOR FILING DATE: 2000-03-23  
 20 <160> NUMBER OF SEQ ID NOS: 32  
 22 <170> SOFTWARE: PatentIn Ver. 3.3

## ERRORED SEQUENCES

335 <210> SEQ ID NO: 3  
 336 <211> LENGTH: 2312  
 E--> 337 <212> TYPE: genomic DNA  
 338 <213> ORGANISM: Schizosaccharomyces pombe  
 340 <400> SEQUENCE: 3  
 341 atggcgctctt ccaagaagag caaaactcat aagaaaaaga aagaagtcaa atctectatc 60  
 342 gacttaccaa attcaaagaa accaactcgc gctttgagtg agcaaccttc agcgctccgaa 120  
 343 acacaatctg tttcaaataa atcaagaaaa tctaaatttg gaaaaagatt gaattttata 180  
 344 ttgggcgcta ttttggaat atgcggtgct ttttttttcg ctggttgaga cgacaatgct 240  
 345 gttttcgacc ctgctacgtt agataaattt gggaatatgc taggctcttc agacttgttt 300  
 346 gatgacatta aaggatattt atcttataat gtgtttaagg atgcaccttt tactacggac 360  
 347 aagccttcgc agtctcctag cggaaatgaa gttcaagttg gtcttgatat gtacaatgag 420  
 348 ggatategaa gtgaccatcc tgttattatg gttcctggtg ttatcagctc aggattagaa 480  
 349 agttggtcgt ttaataattg ctcgattcct tactttagga aacgtctttg gggtagctgg 540  
 350 tctatgctga aggcaatgtt ccttgacaag caatgctggc ttgaacattt aatgcttgat 600  
 351 aaaaaaaccc gcttgatcc gaagggaatt aagctgcgag cagctcaggg gtttgaagca 660  
 352 gctgattttt ttatcacggg ctattggatt tggagtaaag taattgaaaa ccttgctgca 720  
 353 attggttatg agcctaataa catgttaagt gcttcttacg attggcgggt atcatatgca 780  
 354 aatttagagg aacgtgataa atatttttca aagttaaaaa tgttcattga gtacagcaac 840  
 355 attgtacata agaaaaaggt agtgttgatt tctcactcca tgggttcaca ggttacgtac 900  
 356 tattttttta agtgggttga agctgagggc tacggaaatg gtggaccgac ttgggttaat 960  
 357 gatcatattg aagcatttat aaatgtgagt ctcatgggtt gtttgactac gtttctaact 1020  
 358 tttgaataga tatcgggata tttgattgga gcacccaaaa cagtggcagc gcttttatcg 1080  
 359 ggtgaaatga aagatacagg tattgtaatt acattaaaca tgtaaatatt taatttttgc 1140

Invalid <212> Response  
 per 1.823 of Seq Rules  
 use "DNA" as response

and explain any modification  
 in <220-2237  
 section.

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

360 taaccgtttt aagctcaatt gaatcagttt tCGgtctatg ggtaagcaat aaattgttga 1200
361 gatttggttac taatttactg tttagtttgg aaaaattttt ttcccgttct gaggtatatt 1260
362 caaaaataca aatgtgctct actttttcta acttttaata gagagccatg atggttcgca 1320
363 ctatgggagg agttagttct atgcttctta aaggaggcga tgttgatgg ggaaatgcca 1380
364 gttgggtaag aaatatgtgc tgttaatttt ttattaatat ttaggctcca gatgatctta 1440
365 atcaaacaaa tttttccaat ggtgcaatta ttcgatatag agaagacatt gataaggacc 1500
366 acgatgaatt tgacatagat gatgcattac aattttttaa aaatgttaca gatgacgatt 1560
367 ttaaaagcat gctagcgaaa aattattccc acggtcttgc ttggactgaa aaagaagtgt 1620
368 taaaaataaa cgaaatgccg tctaaatgga taaatccgct agaagtaaga acattaaagt 1680
369 tactaaatta tactaaccca aatagactag tcttcttat gctcctgata tgaaaattta 1740
370 ttgcgttcac ggggtcgga aaccaactga gagaggttat tattatacta ataactctga 1800
371 ggggcaacct gtcattgatt cctcggttaa tgatggaaca aaagttgaaa atgtgagaga 1860
372 atttatgttt caaacattct attaaactgt ttattagggt attgttatgg atgatgggta 1920
373 tggaaacttta ccaatattag cccttggttt ggtgtgcaat aaagtttggc aaacaaaaag 1980
374 gttaatacct gctaatacaa gtatcacaaa ttatgaaatc aagcatgaac ctgctgcgtt 2040
375 tgatctgaga ggaggacctc gctcggcaga acacgtcgat atacttggaac attcagagct 2100
376 aaatgtatgt tcattttacc ttacaaattt ctattactaa ctcttgaaat aaggaaatta 2160
377 ttttaaaagt ttcacaggc catggtgact cggtaacaaa ccggtatata tcagatatcc 2220
378 agtacggaca taagttttgt agattgcaat taactaacta accgaacagg gaaataataa 2280
379 atgagataaa tctcgataaa cctagaatt aa 2312

```

382 &lt;210&gt; SEQ ID NO: 4

383 &lt;211&gt; LENGTH: 3685

E--> 384 <212> TYPE: genomic DNA

385 &lt;213&gt; ORGANISM: Arabidopsis thaliana

387 &lt;400&gt; SEQUENCE: 4

```

388 atgcccttta ttcacgga aaagccgacg gagaaccat cgacgccgcc atctgaagag 60
389 gtggtgcacg atgaggattc gcaaaagaaa ccacacgaat cttccaaatc ccaccataag 120
390 aaatcgaacg gaggaggga gtggtcgtgc atcgattctt gttgttggtt cattgggtgt 180
391 gtgtgtgtaa cctggtggtt tcttctcttc ctttacaacg caatgcctgc gagcttccct 240
392 cagtatgtaa cggagcgaat cacgggtcct ttgctgacc cgcccgggtg taagctcaaa 300
393 aaagaagggtc ttaaggcgaa acatcctggt gtcttcattc ctgggattgt caccgggtggg 360
394 ctcgagcttt gggaggcaa acaatgcgct gatggtttat ttagaaaacg tttgtggggg 420
395 ggaacttttg gtgaagtcta caaaagggtga gctcaacaat tctcactctt cctttatatt 480
396 gggatttgga ttgatctga tgagatcacg cacttggtgc ttcttcaaca tcaactaaac 540
397 ttttaattcca tgttgctctg tcttactctt tacttttttt tttttttgat gtgaaacgct 600
398 attttcttaa gagactatct ctgtatgtgt aaggtaagcg ttccaaggac gtaattggct 660
399 tggactatct ctgtttgatt gttaacttta ggatataaaa tagctgcctt ggaatttcaa 720
400 gtcattctat tgccaaatct gttgctagac atgccctaga gtccgttcac aacaagttac 780
401 ttcctttact gtcgttgctg ttagatttag ctttggttag cgtataatga agtagtggtt 840
402 tatgttttgt tgggaataga gaagttctaa ctacatctgt ggaaagtgtg ttcaggctgt 900
403 gatagaggac tgttgcttta ttattcaact atgtatatgt gtaattaaag ctagttcctt 960
404 tttgatcttt cagctcaatg tgcttttctc aatttttttc tcaatttcaa agtttcacat 1020
405 cgagtttatt cacatgtctt gaatttcgtc catcctcggt ctgttatcca gctttgaact 1080
406 cctcccgacc ctgctatgga tatattaaaa aaaaagtgtt ttgtgggttg catctttggt 1140
407 acgatctgca tcttcttctt tccggtcagt gttcatggtt ttgctatggg agagatgggc 1200
408 aatgttattg ttgatggtta cagtggtaga gttgatgta tcttaactaa tcaattatct 1260
409 ctttgattca ggcctctatg ttgggtgaaa cacatgtcac ttgacaatga aactgggttg 1320
410 gatccagctg gtattagagt tccagctgta tcaggactcg tggctgctga ctactttgct 1380
411 cctggctact ttgtctgggc agtgctgatt gctaaccttg cacatattgg atatgaagag 1440

```

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

412 aaaaatatgt acatggctgc atatgactgg cggctttcgt ttcagaacac agagggttctt 1500
413 ttctcatcgt tctttctatt attctgttcc atgttacgtt tctttcttca ttacttaagg 1560
414 cttaaatatg tttcatgttg aattaatagg tacgtgatca gactcttagc cgtatgaaaa 1620
415 gtaatataga gttgatgggt tctaccaacg gtggaaaaaa agcagttata gttccgcatt 1680
416 ccatgggggt cttgtatttt ctacatttta tgaagtgggt tgaggcacca gctcctctgg 1740
417 gtggcggggg tgggccagat tgggtgtgcaa agtatattaa ggcgggtgat aacattgggtg 1800
418 gaccatttct tgggtgtcca aaagctgttg cagggtcttt ctctgctgaa gcaaaggatg 1860
419 ttgcagttgc cagggtattga atatctgctt atacttttga tgatcagaac cttgggtctg 1920
420 gaactcaaag ttattctact aaatatcaat tctaataaca ttgctatatt atcgctgcaa 1980
421 ctgacattgg ttgattattt ttgctgctta tgtaactgaa actctcttga gattagacaa 2040
422 atgatgaatt gataattctt acgcattgtc ctgtgatgac cagtttctta gcttcgacga 2100
423 taacatttgt catactgtct tttggagggc attgaatttt gctatggaaa gcgctggagc 2160
424 ttccatgctt gcattcttta ccaattagcg ttattctgct tctttcaatt ttcttgata 2220
425 tgcacatcatg gtcttttatt tcttcttaat taaagactcg ttggattagt tgctctatta 2280
426 gtcacttgggt tccttaatat agaactttac tttcttcgaa aattgcagag cgattgcccc 2340
427 aggattctta gacaccgata tatcttagact tcagaccttg cagcatgtaa tgagaatgac 2400
428 acgcacatgg gactcaacaa tgtctatgtt accgaaggga ggtgacacga tatggggcgg 2460
429 gcttgattgg tcaccggaga aaggccacac ctgttgtggg aaaaagcaaa agaacaacga 2520
430 aacttgtggg gaagcaggtg aaaacggagt ttccaagaaa agtcctgtta actatggaag 2580
431 gatgatattc tttgggaaaag aagtagcaga ggctgcgcca tctgagatta ataatttga 2640
432 ttttcgagta aggacatata aatcataata aacctgtgac attttgtgat tgtatgatga 2700
433 atatctgtac attttatctg gtgaagggtg ctgtcaaagg tcagagtatc ccaaatcaca 2760
434 cctgtcgtga cgtgtggaca gagtaccatg acatgggaat tgctgggac aaagctatcg 2820
435 ctgagtataa ggtctacact gctggtgaag cctagatct actacattat gttgctccta 2880
436 agatgatggc gcgtgtggcc gctcatttct cttatggaat tgctgatgat ttggatgaca 2940
437 ccaagtatca agatcccaaa tactggtcaa atccgttaga gacaaagtaa gtgatttctt 3000
438 gattccaact gtatccttcg tctgatgca ttatcagct ttttgttttc ggtcttggtg 3060
439 gatatggttt tcagctcaaa gcttacaaag ctgtttctga gcctttctca aaaaggcttg 3120
440 ctcagtaata ttgaggtgct aaagttgata catgtgactc ttgcttataa atcctccgtt 3180
441 tggtttggtc tgctttttca gattaccgaa tgctcctgag atggaaatct actcattata 3240
442 cggagtgggg ataccaacgg aacgagcata cgtatacaag cttaccagt ctcccgcacg 3300
443 ttgcatcccc tttcagatat tcaacttctgc tcacgaggag gacgaagata gctgtctgaa 3360
444 agcaggaggt tacaatgtgg atggggatga aacagtaccc gtcctaagtg ccgggtacat 3420
445 gtgtgcaaaa gcgtggcgtg gcaagacaag attcaaccct tccggaatca agacttatat 3480
446 aagagaatac aatcactctc cgccggctaa cctgttgga gggcgcgga cgcagagtgg 3540
447 tgcccattgt gatatcatgg gaaactttgc tttgatcgaa gatatcatga gggttgccc 3600
448 cggaggtaac ggggtctgata taggacatga ccagggtccac tctggcataat ttgaatggtc 3660
449 ggagcgtatt gacctgaagc tgtga 3685

```

452 &lt;210&gt; SEQ ID NO: 5

453 &lt;211&gt; LENGTH: 2427

E--> 454 <212> TYPE: CDNA → *same type of error as previous pages see page-4*

455 &lt;213&gt; ORGANISM: Arabidopsis thaliana

457 &lt;400&gt; SEQUENCE: 5

```

458 agaaacagct ctttgtctct ctogactgat ctaacaatcc ctaatctgtg ttctaaattc 60
459 ctggagcaga tttgacaaaag tccgtatagc ttaacctggg ttaatttcaa gtgacagata 120
460 tgccccctat tcacgcgaaa aagccgacgg agaaaccatc gacgcgcgca tctgaagagg 180
461 tgggtgcacga tgaggattcg caaaagaaac cacacgaatc ttccaaatcc caccataaga 240
462 aatcgaaacgg agggagggaag tggctgtgca tcgattcttg ttgttggttc attgggtgtg 300
463 tgtgtgtaac ctgggtggttt cttctcttcc tttacaacgc aatgcctgcg agcttccttc 360

```



## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

464 agtatgtaac ggagcgaatc acgggtcctt tgcctgaccc gcccggtgtt aagctcaaaa 420
465 aaagaagggtc ttaaggcgaa acatcctgtt gtcttcattc ctgggattgt caccgggtggg 480
466 ctcgagctttt gggaaggcaa acaatgcgct gatggtttat ttagaaaacg tttgtggggt 540
467 ggaactttttg gtgaagtcta caaaaggcct ctatgttggg tggaacacat gtcacttgac 600
468 aatgaaactg ggttgatcc agctggtatt agagttcgag ctgtatcagg actcgtggct 660
469 gctgactact ttgctcctgg ctactttgtc tgggcagtgc tgattgctaa ccttgccat 720
470 attggatatg aagagaaaaa tatgtacatg gctgcatact actggcggct ttcgtttcag 780
471 aacacagagg tacgtgatca gactccttagc cgtatgaaaa gtaatataga gttgatgggt 840
472 tctaccaacg gtggaaaaaa agcagttata gttccgcatt ccatgggggt cttgtatttt 900
473 ctacatttta tgaagtgggt tgaggcacca gtcctctctg gtggcggggg tgggccagat 960
474 tgggtgcaa agtatattaa ggcgggtgat aacattgggt gaccatttct tgggtgtcca 1020
475 aaagctggtg cagggtcttt ctctgctgaa gcaaaggatg ttgcagttgc cagagcgatt 1080
476 gccccaggat tcttagacac cgatatattt agacttcaga ccttgacga tgtaatgaga 1140
477 atgacacgca cctgggactc aacaatgtct atgttaccga agggaggtga cacgatattg 1200
478 ggcgggcttg attggtcacc ggagaaaggc cacacctgtt gtgggaaaaa gcaaaagaac 1260
479 aacgaaactt gtggtgaagc aggtgaaaaa ggagtttcca agaaaagtcc tgttaactat 1320
480 ggaaggatga tatcttttgg gaaagaagta gcagaggtg cgccatctga gattaataat 1380
481 attgattttc gaggtgctgt caaaggctcag agtatcccaa atcacacctg tcgtgacgtg 1440
482 tggacagagt accatgacat ggggaattgct gggatcaaag ctatcgctga gtataaggct 1500
483 tactctgctg gtgaagctat agatctacta cattatgttg ctccctaagat gatggcgcgt 1560
484 ggtgccgctc atttctctta tgggaattgct gatgatttgg atgacaccaa gtatcaagat 1620
485 cccaaatact ggtcaaacc gtttagagaca aaattaccga atgctcctga gatggaaatc 1680
486 tactcattat acggagtggg gataccaacg gaacgagcat acgtatacaa gcttaaccag 1740
487 tctcccgaca gttgcatccc ctttcagata ttacttctg ctccagagga ggacgaagat 1800
488 agctgtctga aagcaggagt ttacaatgtg gatgggatg aaacagtacc cgtcctaagt 1860
489 gccgggtaca tgtgtgcaaa agcgtggcgt ggcaagacaa gattcaacct ttccggaatc 1920
490 aagacttata taagagaata caatcactct ccgccggtc acctgttgga agggcgcggt 1980
491 acgcagagtg gtgcccatgt tgatatcatg ggaaactttg ctttgatcga agatatacat 2040
492 aggggtgccg ccggaggtaa cgggtctgat ataggacatg accaggtcca ctctggcata 2100
493 ttgaaatggt cggagcgtat tgacctgaag ctgtgaatat catgatctct ttaagctgtc 2160
494 ctgtcagctt atgtgaatcc aatactttga aagagagatc atcatcaatt catcatcatc 2220
495 gtcacatca tgatgctcaa ctacaaaaga agcctgagaa tgatactttg gtgcgaaatt 2280
496 ctcaataact ctttaatat cttattgaat gtaaattata caatcctatc taatgtttga 2340
E--> 497 acgataacac aaaacttgtt gggccatgt ttgtttgtct tgtcaaaagc atcaatttgt 2400
498 gggttaaaaa aaaaaaaaaa aaaaaaa 2427
637 <210> SEQ ID NO: 7
638 <211> LENGTH: 643
E--> 639 <212> TYPE: CDNA
640 <213> ORGANISM: Zea mays
642 <220> FEATURE:
643 <221> NAME/KEY: CDS
644 <222> LOCATION: (1)..(402)
646 <400> SEQUENCE: 7
647 cgg gag aaa ata gct gct ttg aag ggg ggt gtt tac tta gcc gat ggt 48
648 Arg Glu Lys Ile Ala Ala Leu Lys Gly Gly Val Tyr Leu Ala Asp Gly
649 1 5 10 15
651 gat gaa act gtt cca gtt ctt agt gcg ggc tac atg tgt gcg aaa gga 96
652 Asp Glu Thr Val Pro Val Leu Ser Ala Gly Tyr Met Cys Ala Lys Gly
653 20 25 30

```

→ See page 17 for Error Explanation

Same Error, See page 5

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

655 tgg cgt ggc aaa act cgt ttc agc cct gcc ggc agc aag act tac gtg 144
656 Trp Arg Gly Lys Thr Arg Phe Ser Pro Ala Gly Ser Lys Thr Tyr Val
657      35      40      45
659 aga gaa tac agc cat tcg cca ccc tct act ctc ctg gaa ggc agg ggc 192
660 Arg Glu Tyr Ser His Ser Pro Pro Ser Thr Leu Leu Glu Gly Arg Gly
661      50      55      60
663 acc cag agc ggt gca cat gtt gat ata atg ggg aac ttt gct cta att 240
664 Thr Gln Ser Gly Ala His Val Asp Ile Met Gly Asn Phe Ala Leu Ile
665      65      70      75      80
667 gag gac gtc atc aga ata gct gct ggg gca acc ggt gag gaa att ggt 288
668 Glu Asp Val Ile Arg Ile Ala Ala Gly Ala Thr Gly Glu Glu Ile Gly
669      85      90      95
671 ggc gat cag gtt tat tca gat ata ttc aag tgg tca gag aaa atc aaa 336
672 Gly Asp Gln Val Tyr Ser Asp Ile Phe Lys Trp Ser Glu Lys Ile Lys
673      100      105      110
675 ttg aaa ttg taa cct atg gga agt taa aga agt gcc gac ccg ttt att 384
676 Leu Lys Leu
677      115
679 gcg ttc caa agt gtc ctg cctgagtgc actctggatt ttgcttaaat 432
681 attgtaattt ttcacgttc attcgtccct ttgtcaaatt tacatttgac aggacgcaa 492
683 tgcgatacga tgttgtaaccg ctatttttcag cattgtatat taaactgtac aggtgtaagt 552
W--> 685 tgcatttgcc agctgaaatt gtgtagtcgt tttctttacg atttaataac aagtggcgga 612
W--> 687 gcagtgcgcc aagcnaaaaa aaaaaaaaaa a 643
716 <210> SEQ ID NO: 9
717 <211> LENGTH: 616
E--> 718 <212> TYPE: cdna → Same Error → See page 17
719 <213> ORGANISM: Neurospora crassa
721 <400> SEQUENCE: 9
E--> 722 ggtggcgaag acgangggcg aagttggagg ctaacgagaa tgacnctcgg agatggatct 60
E--> 723 accctctaga gacacgacta ccnttgcacc cagcctcaag gtntacngtt tntatgggta 120
724 ggaagccgac ggagcgagcc tacatctatc tggcgcccgga tcccgggacg acaacgcac 180
E--> 725 tttagatgac gatcgatacg actttgactn aggggcacat tgaccacggt gtgatttttg 240
726 gcgaaggcga tggcacagtg aaccttatga gtttggggta cctgtgcaat aaggggtgga 300
727 aaatgaagag atacaatcct gcgggctcaa aaataaccgt ggtcgagatg ccgcatgaac 360
728 cagaacggtt caatccgaga ggagggccga atacggcgga tcacgtggat attctaggaa 420
729 ggcagaatct aaacgagtag attcttaaag tggcggcagg tgcaggcgat acaattgagg 480
730 attttattac tagtaatat cttaaataag tagaaaagg tgaatttat gaagagtaac 540
731 taaatacggc acatagggtta ctcaatagta tgactaatta aaaaaaatt ttttttctaa 600
732 aaaaaaaaaa aaaaaa 616
735 <210> SEQ ID NO: 10
736 <211> LENGTH: 1562
E--> 737 <212> TYPE: genomic DNA → Same Error
738 <213> ORGANISM: Arabidopsis thaliana
740 <400> SEQUENCE: 10
741 atgaaaaaaaa tatcttcaca ttattcggtg gtcatagcga tactcgttgt ggtgacgatg 60
742 acctcgatgt gtcaagctgt gggtagcaac gtgtaccctt tgattctggt tccaggaaac 120
743 ggaggttaacc agtatagggt acggctggac agagaataca agccaagtag tgtctggtgt 180
744 agcagctggt tatatccgat tcataagaag agtggtggat ggtttaggct atggttcgat 240
745 gcagcagtgt tattgtctcc cttcaccagg tgcttcagcg atcgaatgat gttgtactat 300

```

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

746 gaccctgatt tggatgatta ccaaaatgct cctggtgtcc aaaccggtt tcctcatttc 360
747 gggtcgacca aatcacttct atacctcgac cctcgtctcc ggtagtagt ttccaagata 420
748 tatcattttg ggacatttgc ataatgaaca aaatagacat aaatttgggg gattattggt 480
749 atatcaatat ccatttatat gctagtcggt aatgtgagtg ttatgttagt atagttaatg 540
750 tgagtgttat gtgattttcc attttaaatg aagctagaaa gttgtcgttt aataatgttg 600
751 ctatgtcatg agaattataa ggacactatg taaatgtagc ttaataataa ggtttgattt 660
752 gcagagatgc cacatcttac atggaacatt tgggtgaaagc tctagagaaa aaatgcgggt 720
753 atgttaacga ccaaaccatc ctaggagctc catatgattt caggtacggc ctggctgctt 780
754 cgggccaccc gtcccggtga gcctcacagt tcctacaaga cctcaaacia ttggtggaaa 840
755 aaactagcag cgagaacgaa ggaaagccag tgatactcct ctcccatagc ctaggaggac 900
756 ttttcgtcct ccatttcctc aaccgtacca ccccttcctg gcgccgcaag tacatcaaac 960
757 actttgttgc actcgtcgcg ccattggggtg ggacgatctc tcagatgaag acatttgctt 1020
758 ctggcaacac taactggtgc cctttagtta accctttgct ggtcagacgg catcagagga 1080
759 cctccgagag taaccaatgg ctacttccat ctaccaaagt gtttcacgac agaactaaac 1140
760 cgcttgtcgt aactcccag gttaactaca cagcttacga gatggatcgg ttttttgcag 1200
761 acattggatt ctcacaagga gttgtgcctt acaagacaag agtggtgcct ttaacagagg 1260
762 agctgatgac tccgggagtg ccagtcactt gcataatgg gagaggagt gatacaccgg 1320
763 aggttttgat gtatggaaaa ggaggattcg ataagcaacc agagattaag tatggagatg 1380
764 gagatgggac ggttaatttg gcgagcttag cagctttgaa agtcgatagc ttgaacaccg 1440
765 tagagattga tggagtttcg catacatcta tacttaaaga cgagatcgca cttaaagaga 1500
766 ttatgaagca gatttcaatt attaattatg aattagccaa tgtaatgcc gtcaatgaat 1560
767 ga 1562

```

770 &lt;210&gt; SEQ ID NO: 11

771 &lt;211&gt; LENGTH: 3896

E--> 772 <212> TYPE: genomic DNA

773 &lt;213&gt; ORGANISM: Arabidopsis thaliana

775 &lt;400&gt; SEQUENCE: 11

```

776 atgggagcga attcgaaatc agtaacggct tccttcacgg tcacgcgctg ttttttcttg 60
777 atttgcgggtg gccgaactgc ggtggaggat gagaccgagt ttcacggcga ctactcgaag 120
778 ctatcgggta taatcattcc gggatttgcg tcgacgcagc tacgagcgtg gtcgatcctt 180
779 gactgtccat aactccggtt ggacttcaat ccgctcgacc tcgtatggct agacaccact 240
780 aaggtccgtg atcttcattt ccttcgctcc ttattctgtc ggtcgagtca cttgttgatg 300
781 aattccaagc gaaatatagc aatgaagcat gtctcgtctc tcttattgat tcgttcatta 360
782 gtcaacagtg acgcttctga atctgagttt agagtcatat aaaacagctg actcggcgag 420
783 tgtttcccat cgcttttggg tcgctaaatg tagcgcaatg aatgtgtaat tagtctgcgc 480
784 tttttattca actagatctg caagtttttc agagtgtcga atagtagtta gaaaaagtta 540
785 ggtcatttta cttgtgcatt gtgattcttt tgggtgttgc ttactgatcg acgtgatgga 600
786 tggtttacag cttctttctg ctgtcaactg ctggtttaag tgtatggtgc tagatcctta 660
787 taatcaaaca gaccatcccg agtgtaagtc acggcctgac agtggtcttt cagccatcac 720
788 agaattggat ccaggttaca taacaggtag tttcggattt ttctttcttt tgagttttct 780
789 tcaatttgat atcatctgt tgtgatataa tatggctaag ttcattaatt tggatcaatt 840
790 tcaggtcctc tttctactgt ctggaaagag tggcttaagt ggtgtgttga gtttggtata 900
791 gaagcaaatg caattgtcgc tgttccatac gattggagat tgtcaccaac caaattggaa 960
792 gagcgtgacc tttactttca caagctcaag ttagtcctta tcaggctaag gtctttttatc 1020
793 ttctcttttt atgtaagata agctaagagc tctggctcgtc ttcttttttg caggttgacc 1080
794 tttgaaactg ctttaaaact ccgtggcggc ccttctatag tatttgccca ttcaatgggt 1140
795 aataatgtct tcagatactt ttggaatgg ctgaggttag aaattgcacc aaaacattat 1200
796 ttgaagtggc ttgaatgcca tatccatgct tatttcgctg ttggtaccgg cctactatcc 1260
797 ttaagttacc attttatttt ttctctaatt gggggagtta tgttgtgact tactggattg 1320

```

→ Same error

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

798 agctcgatac ctgatttggt gttgatttag gagctcctct tcttggttct gttgaggcaa 1380
799 tcaaatctac tctctctggt gtaacgtttg gccttcctgt ttctgagggt acctctgact 1440
800 tctcttttagt ttttaagtag tgatatcaac caggctcttat aactcactgg attttccttt 1500
801 tgaaggtatt acttttggtta attgaactgc tgtacgggat atggtatctg tagatcttga 1560
802 agtgctagtt atcaaagaac atattgtggg tagtatacct gtcagcggcc ttagctaata 1620
803 caaccaaacc acatgtacac tgatttagtt ttcagattat tatggtagac ttttaagttga 1680
804 gaagaaactt tgactgaaat ctttttattt taataggcta tgatttggtt attgaaatca 1740
805 tgtgacatat tgacatgcgc ttctcatggt ttttggtggc aaggcttcag ggaactgctc 1800
806 ggttggtgtc caattctttt gcgtcgatcat tgtggttat gccattttca aagaattgca 1860
807 aggggtgataa cacattctgg acgcatTTTT ctgggggtgc tgcaaagaaa gataagcgcg 1920
808 tataccactg tgatgaagag gaatatcaat caaaatattc tggctggccg acaaatatta 1980
809 ttaacattga aattccttcc actagcgggt agactctgta tatgcaactg taacactaac 2040
810 aaaagtttca ccaagaatgt tcaactcat atttcgttcc tttgatgtgt atccatcagt 2100
811 tacagaaaca gctctagtca acatgaccag catggaatgt ggccttccca cccttttgct 2160
812 tttcacagcc cgtgaactag cagatgggac tcttttcaaa gcaatagaag actatgacc 2220
813 agatagcaag aggatgttac accagttaaa gaagtacgta ctttctttg tgataagaaa 2280
814 tattgctcat cgatcatcac ttgctggctt cttgtacgta aaattgtttt gtttaaattc 2340
815 ctatatcaat tgttcatatg ctttgtcttt cttactataa gaaacaagta taatcagaaa 2400
816 ccttattatt gattatcagt tctctcctta tattatggaa tgtctttttc gtttacagtt 2460
817 atgaatgcaa aagggggtat tttagttgat tgattctctc attctctagt ttgttttgac 2520
818 taatagcgctc aattttgttt ttctagcaaa tcttttgtaa ttatatataa catgctaact 2580
819 atacttttca ggttgatca tgatgaccct gtttttaac ctctgactcc ttgggagaga 2640
820 ccacctataa aaaatgtatt ttgcatatat ggtgctcatc taaagacaga ggatgatgc 2700
821 attctcaata tcacattatg cgttgacttt tttattatat tccccatttg gtttgcaata 2760
822 tctttttgaa ttatgattta tcttctcct tgcattctat gctattaagc gttaaaggta 2820
823 ctaaatgtat gaagctgtct gtcatagggt gggtattact ttgccccaa gggcaaacct 2880
824 tatcctgata attggatcat cacggatata atttatgaaa ctgaagggtc cctcgtgtca 2940
825 aggtaatTTT ccgcaatggc agaagtaaaa caggaaggca aagtcttctg tatcagtcta 3000
826 gtggcatggt atctcagttg cataagcaaa ttattaaaca actaaaattt aagtactttt 3060
827 ttatcattcc ttttgagctt agtggatgat cagtggctta aagtgggaag aggtgttgca 3120
828 tgaaacatga cacttgatc aaagataact agcaaaacaa aactaaccct tttctgaatt 3180
829 tcatattatt aggagtagtc gtgcttttaa aaaatttgtt ttaagaaacc gaaaaactag 3240
830 ttcatatctt gatttgtaa tatctgcagg tctggaactg tggtgatgg gaacgctgga 3300
831 cctataactg gggatgagac ggtaagctca gaagtgggt ttgaaattat cttcttgcaa 3360
832 actactgaag actaagataa tacttgcttc tggaaactg cttgctatgt tctctagtac 3420
833 actgcaatat tgactctccg ctacttttat tgattatgaa attgatctct tataggtagc 3480
834 ctatcattca ctctcttggt gcaagaattg gctcggacct aaagttaaca taacaatggc 3540
835 tccccaggta ctctttttta gttcctcacc ttatatagat caaactttta gtgtactttt 3600
836 ctggttatgt gttgatttac ctccaatttg ttctttctaa aaatcatata tctctgtact 3660
837 cctcaagaac ttgtattaat ctaaaacgaga ttctcattgg gaaaataaaa caacagccag 3720
838 aacacgatgg aagcgacgta catgtggaac taaatgttga tcatgagcat gggtcagaca 3780
839 tcatagctaa catgacaaaa gcaccaaggg ttaagtacat aaccttttat gaagactctg 3840
840 agagcattcc ggggaagaga accgcagctc gggagcttga taaaagtggt tattaa 3896

```

843 &lt;210&gt; SEQ ID NO: 12

844 &lt;211&gt; LENGTH: 709

E--> 845 <212> TYPE: cdna

846 &lt;213&gt; ORGANISM: Lycopersicon esculentum

848 &lt;400&gt; SEQUENCE: 12

849 ctggggccaa aagtgaacat aacaaggaca ccacagtcag agcatgatgt tcagatgtac 60

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

850 aagtgcattc aaatatagag catcaacatg gtgaagatat cattcccaat atgacaaagt 120
851 tacctacaat gaagtacata acctattatg aggattctga aagttttcca gggacaagaa 180
852 cagcagtttg ggagcttgat aaagcaaatac acaggaacat tgcagatct ccagctttga 240
853 tgcgggagct gtggcttgag atgtggcatg atattcatcc tgataaaaag tccaagtttg 300
854 ttacaaaagg tgggtgtctga tctcactat tttcttctat aaatgtttga gtttgattg 360
855 acattgtaag tattgcaaca aaaagcaaag cgtgggcctc tgagggatga ggactgctat 420
856 tgggattacg ggaaagctcg atgtgcatgg gctgaacatt gtgaatacag gttagaatat 480
857 tcaaattata ttttgcaaaa tattctcttt ttgtgtattt aggccacctt tccccggtea 540
858 caacgatgca gatatgtatt cggggatgtt cacctgggac agagttgcag attgaagagt 600
859 tctacatctc acatcctgtc acactatgtg tgatatttaa gaaactttgt ttggcggaac 660
860 aacaagtttg cacaacatt tgaagaagaa agcgaaatga ttcagagag 709

```

2123 &lt;210&gt; SEQ ID NO: 23

2124 &lt;211&gt; LENGTH: 2312

E--> 2125 <212> TYPE: genomic DNA

same error

2126 &lt;213&gt; ORGANISM: Schizosaccharomyces pombe

2128 &lt;400&gt; SEQUENCE: 23

```

2129 atggcgctctt ccaagaagag caaaactcat aagaaaaaga aagaagtcaa atctcctatc 60
2130 gacttaccaa attcaaagaa accaactcgc gctttgagtg agcaaccttc agcgtccgaa 120
2131 acacaatctg tttcaaataa atcaagaaaa tctaaatttg gaaaaagatt gaattttata 180
2132 ttgggcgcta ttttggaat atgcggtgct ttttttttcg ctggtggaga cgacaatgct 240
2133 gttttcgacc ctgctacgtt agataaattt gggaatatgc taggctcttc agacttggtt 300
2134 gatgacatta aaggatattt atcttataat gtgtttaagg atgcacctt tactacggac 360
2135 aagccttcgc agtctcctag cggaaatgaa gttcaagttg gtcttgatat gtacaatgag 420
2136 ggatatcgaa gtgacatcc tgttattatg gttcctggtg ttatcagctc aggtattaga 480
2137 agttggtcgt ttaataattg ctcgattcct tacttttaga aacgtctttg gggtagctgg 540
2138 tctatgctga aggcaatgtt ccttgacaag caatgctggc ttgaacattt aatgcttgat 600
2139 aaaaaaaccc gcttgatcc gaaggggaatt aagctgcgag cagctcaggg gtttgaagca 660
2140 gctgattttt ttatcacggg ctattggatt tggagtaaag taattgaaaa ccttgctgca 720
2141 attggttatg agcctaataa catgttaagt gcttcttacg attggcgggt atcatatgca 780
2142 aatttagagg aacgtgataa atatttttca aagttaaaaa tgttcattga gtacagcaac 840
2143 attgtacata agaaaaaggt agtggtgatt tctcactcca tgggttcaca gggtacgtac 900
2144 tattttttta agtgggttga agctgagggc tacggaaatg gtggaccgac ttgggttaat 960
2145 gatcatattg aagcatttat aaatgtgagt ctcgatgggt gtttgactac gtttctaact 1020
2146 tttgaataga tatcgggac tttgatttga gcacccaaaa cagtggcagc gcttttatcg 1080
2147 ggtgaaatga aagatacagg tattgtaatt acattaaaca tgtaaatatt taatttttgc 1140
2148 taaccgtttt aagctcaatt gaatcagttt tcggtctatg ggtaagcaat aaattggtga 1200
2149 gatttggtac taatttactg tttagtttgg aaaaattttt tcccgttct gaggtatatt 1260
2150 caaaaataca aatgtgctct actttttcta acttttaata gagagccatg atggttcgca 1320
2151 ctatgggagg agttagttct atgcttccta aaggaggcga tgttgatagg ggaaatgcca 1380
2152 gttgggtaag aaatatgtgc tgtaattttt ttattaatat ttaggtcca gatgatctta 1440
2153 atcaaacaaa tttttccaat ggtgcaatta ttcgatatag agaagacatt gataaggacc 1500
2154 acgatgaatt tgacatagat gatgcattac aatttttaaa aaatgttaca gatgacgatt 1560
2155 ttaaagtcac gtagcgaaa aattattccc acggtcttgc ttggactgaa aaagaagtgt 1620
2156 taaaaaataa cgaaatgccg tctaaatgga taaatccgct agaagtaaga acattaaagt 1680
2157 tactaaatta tactaaccca aatagactag tcttccttat gctcctgata tgaaaattta 1740
2158 ttgcgttcac ggggtcggaa aaccaactga gagagggtat tattatacta ataactctga 1800
2159 ggggcaacct gtcattgatt cctcggttaa tgatggaaca aaagttgaaa atgtgagaga 1860
2160 atttatgttt caaacattct attaaactgt ttattagggt attgttatgg atgatggaga 1920
2161 tggaaacttta ccaatattag cccttggttt ggtgtgcaat aaagtttggc aaacaaaaag 1980

```

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

2162 gtttaaatcct gctaatacaa gtatcacaaa ttatgaaatc aagcatgaac ctgctgcgtt 2040  
 2163 tgatctgaga ggaggacctc gctcggcaga acacgtcgat atacttggaac attcagagct 2100  
 2164 aaatgtatgt tcattttacc ttacaaattt ctattactaa ctcttgaaat aaggaaatta 2160  
 2165 ttttaaaagt ttcacaggc catggtgact cggtaacaaa ccgttatata tcagatatcc 2220  
 2166 agtacggaca taagttttgt agattgcaat taactaacta accgaacagg gaaataataa 2280  
 2167 atgagataaa tctcgataaa cctagaaatt aa 2312  
 2170 <210> SEQ ID NO: 24  
 2171 <211> LENGTH: 3685  
 E--> 2172 <212> TYPE: genomicDNA > same error  
 2173 <213> ORGANISM: Arabidopsis thaliana  
 2175 <400> SEQUENCE: 24  
 2176 atgcccctta ttcacggaa aaagccgacg gagaaaccat cgacgccgcc atctgaagag 60  
 2177 gtggtgcacg atgaggattc gcaaaagaaa ccacacgaat cttccaaatc ccaccataag 120  
 2178 aaatcgaacg gaggagggaa gtggctcgtc atcgattctt gttgttggtt cattgggtgt 180  
 2179 gtgtgtgtaa cctggtggtt tcttctcttc ctttacaacg caatgcctgc gagcttcctt 240  
 2180 cagtatgtaa cggagcgaat cacgggtcct ttgcctgacc cgcccggtgt taagctcaaa 300  
 2181 aaagaaggtc ttaaggcgaa acatcctggt gtcttcattc ctgggattgt caccgggtggg 360  
 2182 ctcgagcttt gggaaggcaa acaatgcgct gatggtttat ttagaaaacg tttgtggggt 420  
 2183 ggaacttttg gtgaagtcta caaagggtga gctcaacaat tctcactctt cctttatatt 480  
 2184 gggatttgga ttggatctga tgagatcacg cacttggtgc ttcttcaaca tcaactcaaac 540  
 2185 ttttaattcca tgtttgtctg tcttactctt tacttttttt tttttttgat gtgaaacgct 600  
 2186 attttcttaa gagactattt ctgtatgtgt aaggtaagcg ttccaaggac gtaattggct 660  
 2187 tggactattt ctgtttgatt gttacttta ggatataaaa tagctgcctt ggaatttcaa 720  
 2188 gtcactttat tgccaaatct gttgctagac atgccctaga gtccgttcac aacaagttac 780  
 2189 ttcctttact gtcgttcgct gtagatttag ctttgtgtag cgtataatga agtagtgtt 840  
 2190 tatgttttgt tgggaataga gaagttctaa ctacatctgt ggaaagtgtg ttcaggctgt 900  
 2191 gatagaggac tgttgcttta ttattcaact atgtatatgt gtaattaaag ctagtctctt 960  
 2192 tttgatcttt cagctcaatg tgcttttctc aatttttttc tcaatttcaa agtttcacat 1020  
 2193 cgagtttatt cacatgtctt gaatttcgtc catcctcggt ctggtatcca gctttgaact 1080  
 2194 cctcccagacc ctgctatgga tatattaaaa aaaaagtgtt ttgtgggttg catctttgtt 1140  
 2195 acgatctgca tcttcttctt tcggctcagt gttcatgttt ttgctatggt agagatgggc 1200  
 2196 aatgttattg ttgatggtaa cagtgggtata gttgatagta tcttaactaa tcaattatct 1260  
 2197 ctttgattca ggctctatg ttgggtggaa cacatgtcac ttgacaatga aactgggttg 1320  
 2198 gatccagctg gtattagagt tcgagctgta tcaggactcg tggctgctga ctactttgct 1380  
 2199 cctggctact ttgtctgggc agtgctgatt gctaaccctg cacatattgg atatgaagag 1440  
 2200 aaaaatatgt acatggctgc atatgactgg cggctttcgt ttcagaacac agaggttctt 1500  
 2201 ttctcatcgt tctttctatt attctgttcc atgttacgtt tctttcttca ttacttaagg 1560  
 2202 cttaaatatg tttcatgttg aattaatagg tacgtgatca gactcttagc cgtatgaaaa 1620  
 2203 gtaatataga gttgatggtt tctaccaacg gtggaaaaaa agcagttata gttccgcatt 1680  
 2204 ccatgggggt cttgtatttt ctacatttta tgaagtgggt tgaggacca gctcctctgg 1740  
 2205 gtggcggggg tgggccagat tgggtgtgcaa agtatattaa ggcgggtgat aacattgggtg 1800  
 2206 gaccatttct tgggtgtcca aaagctgttg cagggtcttt ctctgctgaa gcaaaggatg 1860  
 2207 ttgcagttgc caggatttga atatctgctt atacttttga tgatcagaac cttggctctg 1920  
 2208 gaactcaaag ttattctact aaatatcaat tctaataaca ttgctatatt atcgctgcaa 1980  
 2209 ctgacattgg ttgattattt ttgctgctta tgtaactgaa actctcttga gattagacaa 2040  
 2210 atgatgaatt gataattctt acgcattgct ctgtgatgac cagtttctta gcttcgacga 2100  
 2211 taacatttgt cataactctt tttggagggc attgaatttt gctatggaaa gcgctggagc 2160  
 2212 ttccatgctt gcattcttta ccaattagcg ttattctgct tctttcaatt ttcttgata 2220  
 2213 tgcactctatg gtcttttatt tcttcttaat taaagactcg ttggattagt tgctctatta 2280

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

2214 gtcacttgggt tccttaatat agaactttac tttcttcgaa aattgcagag cgattgcccc 2340
2215 aggattctta gacaccgata tatttagact tcagaccttg cagcatgtaa tgagaatgac 2400
2216 acgcacatgg gactcaacaa tgtctatgtt accgaaggga ggtgacacga tatggggcgg 2460
2217 gcttgattgg tcaccggaga aaggccacac ctgttggtgg aaaaagcaaa agaacaacga 2520
2218 aacttggtgg gaagcagggtg aaaacggagt ttccaagaaa agtcctgtta actatggaag 2580
2219 gatgatattct tttgggaaag aagtagcaga ggctgcgcca tctgagatta ataattattga 2640
2220 ttttcgagta aggacatata aatcataata aaccttgtag attttgtgat tgtatgatga 2700
2221 atatctgtac attttatctg gtgaaggggt ctgtcaaaagg tcagagtatc ccaaatacaca 2760
2222 cctgtcgtga cgtgtggaca gagtaccatg acatgggaat tgctgggatc aaagctatcg 2820
2223 ctgagtataa ggtctacact gctgggtgaag ctatagatct actacattat gttgtctcta 2880
2224 agatgatggc gcgtggtgcc gctcatttct cttatggaat tgctgatgat ttggatgaca 2940
2225 ccaagtatca agatcccaaa tactggtcaa atccgttaga gacaaagtaa gtgatttctt 3000
2226 gattccaact gtatccttcg tctgatgca ttatcagtct ttttgtttc ggtcttgggtg 3060
2227 gatattgggtt tcagctcaaa gcttacaaag ctgtttctga gcctttctca aaaaggcttg 3120
2228 ctcaagtaata ttgaggtgct aaagttgata catgtgactc ttgcttataa atcctccgtt 3180
2229 tgggtttgttc tgctttttca gattaccgaa tgctcctgag atggaaatct actcattata 3240
2230 cggagtgggg ataccaacgg aacgagcata cgtatacaag cttaccagt ctcccgacag 3300
2231 ttgcatcccc ttccagatat tcaacttctgc tcacgaggag gacgaagata gctgtctgaa 3360
2232 agcaggagtt tacaatgtgg atggggatga aacagtaccc gtcctaagtg ccgggtacat 3420
2233 gtgtgcaaaa gcgtggcgtg gcaagacaag attcaaccct tccggaatca agacttatat 3480
2234 aagagaatac aatcactctc cgccggctaa cctgttggaa gggcgcgagg cgcagagtgg 3540
2235 tgcccatgtt gatatcatgg gaaactttgc tttgatcgaa gatatcatga gggttgccgc 3600
2236 cggaggtaac gggctctgata taggacatga ccaggccac tctggcatat ttgaatggtc 3660
2237 ggagcgtatt gacctgaagc tgtga 3685

```

2240 &lt;210&gt; SEQ ID NO: 25

2241 &lt;211&gt; LENGTH: 402

E--> 2242 <212> TYPE: CDNA

2243 &lt;213&gt; ORGANISM: Arabidopsis thaliana

2245 &lt;220&gt; FEATURE:

2246 &lt;221&gt; NAME/KEY: CDS

2247 &lt;222&gt; LOCATION: (120)..(401)

2249 &lt;400&gt; SEQUENCE: 25

2250 agaaacagct ctttgtctct ctgcactgat ctaacaatcc ctaatctgtg ttctaaattc 60

2252 ctggacgaga ttgacaaaag tccgtatagc ttaacctggt ttaatttcaa gtgacagat 119

2254 atg ccc ctt att cat cgg aaa aag ccg acg gag aaa cca tcg acg ccg 167

2255 Met Pro Leu Ile His Arg Lys Lys Pro Thr Glu Lys Pro Ser Thr Pro

2256 1 5 10 15

2258 cca tct gaa gag gtg gtg cac gat gag gat tcg caa aag aaa cca cac 215

2259 Pro Ser Glu Glu Val Val His Asp Glu Asp Ser Gln Lys Lys Pro His

2260 20 25 30

W--> 2262 gaa tct tcc aaa tcc cac cat aag gaa tcg aac gga gga ggg aag tgg 263

W--&gt; 2263 Glu Ser Ser Lys Ser His His Lys Xaa Ser Asn Gly Gly Gly Lys Trp

2264 35 40 45

2266 tcg tgc atc gat tct tgt tgt tgg ttc att ggg tgt gtg tgt gta acc 311

2267 Ser Cys Ile Asp Ser Cys Cys Trp Phe Ile Gly Cys Val Cys Val Thr

2268 50 55 60

2270 tgg tgg ttt ctt ctc ttc tac aac gca atg cct gcg agc ttc cct 359

2271 Trp Trp Phe Leu Leu Phe Leu Tyr Asn Ala Met Pro Ala Ser Phe Pro

2272 65 70 75 80

see page 21

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

See page 17

W--> 2274 cag tat gta acg gag ccg aat cac gng tcc ttt gcc tta ccc g 402

W--> 2275 Gln Tyr Val Thr Glu Pro Asn His Xaa Ser Phe Ala Leu Pro

2276 85 90

2279 <210> SEQ ID NO: 26

2280 <211> LENGTH: 643

E--> 2281 <212> TYPE: CDNA → Same Error

2282 <213> ORGANISM: Zea mays

2284 <220> FEATURE:

2285 <221> NAME/KEY: CDS

2286 <222> LOCATION: (1)..(402)

2288 <400> SEQUENCE: 26

2290 cgg gag aaa ata gct gct ttg aag ggg ggt gtt tac tta gcc gat ggt 48

2291 Arg Glu Lys Ile Ala Ala Leu Lys Gly Gly Val Tyr Leu Ala Asp Gly

2292 1 5 10 15

2294 gat gaa act gtt cca gtt ctt agt gcg ggc tac atg tgt gcg aaa gga 96

2295 Asp Glu Thr Val Pro Val Leu Ser Ala Gly Tyr Met Cys Ala Lys Gly

2296 20 25 30

2298 tgg cgt ggc aaa act cgt ttc agc cct gcc ggc agc aag act tac gtg 144

2299 Trp Arg Gly Lys Thr Arg Phe Ser Pro Ala Gly Ser Lys Thr Tyr Val

2300 35 40 45

2302 aga gaa tac agc cat tcg cca ccc tct act ctc ctg gaa ggc agg ggc 192

2303 Arg Glu Tyr Ser His Ser Pro Pro Ser Thr Leu Leu Glu Gly Arg Gly

2304 50 55 60

2306 acc cag agc ggt gca cat gtt gat ata atg ggg aac ttt gct cta att 240

2307 Thr Gln Ser Gly Ala His Val Asp Ile Met Gly Asn Phe Ala Leu Ile

2308 65 70 75 80

2310 gag gac gtc atc aga ata gct gct ggg gca acc ggt gag gaa att ggt 288

2311 Glu Asp Val Ile Arg Ile Ala Ala Gly Ala Thr Gly Glu Glu Ile Gly

2312 85 90 95

2314 ggc gat cag gtt tat tca gat ata ttc aag tgg tca gag aaa atc aaa 336

2315 Gly Asp Gln Val Tyr Ser Asp Ile Phe Lys Trp Ser Glu Lys Ile Lys

2316 100 105 110

2318 ttg aaa ttg taa cct atg gga agt taa aga agt gcc gac ccg ttt att 384

2319 Leu Lys Leu

2320 115

2322 gcg ttc caa agt gtc ctg cctgagtga actctggatt ttgcttaaat 432

2324 attgtaattt ttcacgcttc attcgccct ttgtcaaatt tacatttgac aggacgcaa 492

2326 tgcgatacga tgttgaccg ctattttcag cattgtatat taaactgtac aggtgtaagt 552

W--> 2328 tgcatttgcc agctgaaatt gtgtagtcgt tttctttacg atttaataa aagtggcgga 612

W--> 2330 gcagtgcgcc aagcaaaaa aaaaaaaaaa a 643

2333 <210> SEQ ID NO: 27

2334 <211> LENGTH: 115

2335 <212> TYPE: PRT

2336 <213> ORGANISM: Zea mays

E--> 2338 <400> SEQUENCE: (30) → 27

2339 Arg Glu Lys Ile Ala Ala Leu Lys Gly Gly Val Tyr Leu Ala Asp Gly

2340 1 5 10 15

2341 Asp Glu Thr Val Pro Val Leu Ser Ala Gly Tyr Met Cys Ala Lys Gly

2342 20 25 30

↓ See page 17



## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

2343 Trp Arg Gly Lys Thr Arg Phe Ser Pro Ala Gly Ser Lys Thr Tyr Val
2344      35                      40                      45
2345 Arg Glu Tyr Ser His Ser Pro Pro Ser Thr Leu Leu Glu Gly Arg Gly
2346      50                      55                      60
2347 Thr Gln Ser Gly Ala His Val Asp Ile Met Gly Asn Phe Ala Leu Ile
2348 65                      70                      75                      80
2349 Glu Asp Val Ile Arg Ile Ala Ala Gly Ala Thr Gly Glu Glu Ile Gly
2350      85                      90                      95
2351 Gly Asp Gln Val Tyr Ser Asp Ile Phe Lys Trp Ser Glu Lys Ile Lys
2352      100                      105                      110
2353 Leu Lys Leu
2354      115
2357 <210> SEQ ID NO: 28
2358 <211> LENGTH: 516
E--> 2359 <212> TYPE: CDNA
2360 <213> ORGANISM: Neurospora crassa
2362 <400> SEQUENCE: 28
E--> 2363 ggtggcgaag acgagggcgg aagttggagg ctaacgagaa tgaacnctcg agatggatct 60
E--> 2364 accctctaga gacacgacta ccnttgcacc cagcctcaag gtntacncttt tatatgggta 120
2365 ggaagccgac ggagcgcgac tacatctatc tggcgcccgga tcccgggacg acaacgcgac 180
E--> 2366 tttagatgac gatcgatacg actttgactn aggggcacat tgaccacggg gtgattttgg 240
2367 gcgaaggcga tggcacagtg aacettatga gtttggggta cctgtgcaat aaggggtgga 300
2368 aatgaagag atacaatcct gcgggctcaa aaataaccgt ggtcgagatg ccgcatgaac 360
2369 cagaacgggt caatccgaga ggagggcggg ataccggcga cttaaataatg tagaaaagg 420
2370 tgaaatttat gaagagtaat taaataccgc acataggtta ctcaatagta tgactaatta 480
2371 aaaaaaaatt ttttttctaa aaaaaaaaaa aaaaaa 516
2374 <210> SEQ ID NO: 29
2375 <211> LENGTH: 1562
E--> 2376 <212> TYPE: genomic DNA
2377 <213> ORGANISM: Arabidopsis thaliana
2379 <400> SEQUENCE: 29
2380 atgaaaaaaaa tatcttcaca ttattcggta gtcatagcga tactcgttgt ggtgacgatg 60
2381 acctcgatgt gtcaagctgt gggtagcaac gtgtaccctt tgattctggt tccaggaaac 120
2382 ggaggttaacc agctagaggt acggctggac agagaatata agccaagtag tgtctggtgt 180
2383 agcagctggt tatatccgat tcataagaag agtggtaggt ggtttaggct atgggttcgat 240
2384 gcagcagtgt tattgtctcc cttcaccagg tgcttcagcg atcgaatgat gttgtactat 300
2385 gaccctgatt tggatgatta ccaaaatgct cctggtgtcc aaaccgggtt tcctcatttc 360
2386 ggttcgacca aatcacttct atacctcgac cctcgctctc ggtagtagtact ttccaagata 420
2387 tatcattttg ggacatttgc ataatagaac aaatagacat aaatttgagg gattattgtt 480
2388 atatcaatat ccatttatat gctagtcggt aatgtgagtg ttatgtagt atagttaaatg 540
2389 tgagtgttat gtgattttcc attttaaatg aagctagaaa gttgtcgttt aataatgttg 600
2390 ctatgtcatg agaattataa ggacactatg taaatgtagc ttaataataa ggtttgattt 660
2391 gcagagatgc cacatcttac atggaacatt tggtgaaagc tctagagaaa aaatgcgggt 720
2392 atgttaacga ccaaaccatc ctaggagctc catatgattt caggtagcgc ctggctgctt 780
2393 cgggccaccc gtcccggtga gcctcacagt tcctacaaga cctcaaacia ttggtggaaa 840
2394 aaactagcag cgagaacgaa ggaaagccag tgatactcct ctcccatagc ctaggaggac 900
2395 ttttcgtcct ccatttcctc aaccgtacca ccccttcatg gcgccgcaag tacatcaaac 960
2396 actttgttgc actcgctgcg ccatgggggt ggacgatctc tcagatgaag acatttgctt 1020
2397 ctggcaacac actcgggtgc ccttagtta accctttgct ggtagacg catcagagga 1080

```

same error

see page 17

same error

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

2398 cctccgagag taaccaatgg ctacttccat ctaccaaagt gtttcacgac agaactaaac 1140  
 2399 cgcttgctgt aactccccag gttaactaca cagcttacga gatggatcgg ttttttgcag 1200  
 2400 acattggatt ctacacaagga gttgtgcctt acaagacaag agtgttgctt ttaacagagg 1260  
 2401 agctgatgac tccgggagtg ccagtcactt gcataatagg gagaggagtt gatacaccgg 1320  
 2402 aggttttgat gtatggaaaa ggaggattcg ataagcaacc agagattaag tatggagatg 1380  
 2403 gagatgggac ggtaattttg gcgagcttag cagctttgaa agtcgatagc ttgaacaccg 1440  
 2404 tagagattga tggagtttcg catacatcta tacttaaaga cgagatcgca cttaaagaga 1500  
 2405 ttatgaagca gatttcaatt attaattatg aattagccaa tgtaaatgcc gtcaatgaat 1560  
 2406 ga 1562  
 2409 <210> SEQ ID NO: 30  
 2410 <211> LENGTH: 3896  
 E--> 2411 <212> TYPE: genomic DNA → Same Error  
 2412 <213> ORGANISM: Arabidopsis thaliana  
 2414 <400> SEQUENCE: 30  
 2415 atgggagcga attcgaaatc agtaacggct tccttcaccg tcacgcccgt ttttttcttg 60  
 2416 atttgcggtg gccgaactgc ggtggaggat gagaccgagt ttcacggcga ctactcgaag 120  
 2417 ctatcggtga taatcattcc gggatttgcg tcgacgcagc tacgagcgtg gtcgatcctt 180  
 2418 gactgtccat aactccggtt ggacttcaat ccgctcgacc tcgtatggct agacaccact 240  
 2419 aagggtccgtg atcttcattt ccttcgctcc ttattctgtc ggtcagatca cttgttgatg 300  
 2420 aattccaagc gaaatatagc aatgaagcat gtctcgtctc tcttattgat tcgttcatta 360  
 2421 gtcaacagtg acgcttctga atctgagttt agagtcatat aaaacagctg actcggcgag 420  
 2422 tgtttcccat cgcttttggg tcgctaaatg tagcgcaatg aatgtgtaat tagtctgccc 480  
 2423 tttttattca actagatctg caagtttttc agagtgtcga atagtagtta gaaaatgta 540  
 2424 ggtcatttta cttgtgcatt gtgattcttt tggttgttgc ttactgatcg acgtgattga 600  
 2425 tggtttacag cttctttctg ctgtcaactg ctgggttaag tgtatgggtc tagatcctta 660  
 2426 taatcaaaca gaccatcccg agtgtaagtc acggcctgac agtggctctt cagccatcac 720  
 2427 agaattggat ccaggttaca taacaggtag tttcggattt ttctttcttt tgagttttct 780  
 2428 tcaatttgat atcatcttgt tgtgatataa tatggctaag ttcattaatt tggccaattt 840  
 2429 tcaggtcctc tttctactgt ctggaaagag tggcttaagt ggtgtgttga gtttggtata 900  
 2430 gaagcaaatt caattgtcgc tgttccatac gattggagat tgtcaccac caaattggaa 960  
 2431 gagcgtgacc tttactttca caagctcaag ttagtctcta tcaggctaatt gtcttttatc 1020  
 2432 ttctcttttt atgtaagata agctaagagc tctggctgct ttcttttttg cagggtgacc 1080  
 2433 tttgaaactg ctttaaaact ccgtggcggc ccttctatag tatttgccca ttcaatgggt 1140  
 2434 aataatgtct tcagatactt tctggaatgg ctgaggctag aaattgcacc aaaacattat 1200  
 2435 ttgaagtggc ttgatcagca tatccatgct tatttcgctg ttggtaccgg cctactatcc 1260  
 2436 ttaagttacc attttatttt ttctctaatt gggggagtta tgttggtgact tactggattg 1320  
 2437 agctcgatac ctgattttgt gttgatttag gagctcctct tcttggttct gttgaggcaa 1380  
 2438 tcaaactctac tctctctggt gtaacgtttg gccttctgtt ttctgaggtg acctctgact 1440  
 2439 tctcttttagt tttaagtagt tgatatcaac caggtcttat aactcactgg attttccttt 1500  
 2440 tgaaagtatt acttttgta attgaactgc tgtacgcgat atggtatctg tagatcttga 1560  
 2441 agtgctagtt atcaaagaac atattgtggg tagtatacct gtcagcggcc ttagctaata 1620  
 2442 caaccaaacc acatgtacac tgatttagtt ttcagattat tatggtagac ttaagttga 1680  
 2443 gaagaaactt tgactgaaat ctttttattt taataggcta tgatttggtt attgaaatca 1740  
 2444 tgtgacatat tgacatgcgc ttctcatggt ttttggtggc aaggcttcag ggaactgctc 1800  
 2445 ggttggtgtc caattctttt gcgtcgctat tgtggcttat gccattttca aagaattgca 1860  
 2446 aggggtgataa cacattctgg acgcattttt ctgggggtgc tgcaaagaaa gataagcgcg 1920  
 2447 tataaccactg tgaatgaagag gaatatcaat caaaatattc tggctggcgg acaaatatta 1980  
 2448 ttaacattga aattccttcc actagcgggt agactctgta tatgcaactg taacactaac 2040  
 2449 aaaagtttca ccaagaatgt tcactctcat atttcgttcc tttgatgtgt atccatcagt 2100

## RAW SEQUENCE LISTING

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

```

2450 tacagaaaca gctctagtcac acatgaccag catggaatgt ggccttccca cccttttgtc 2160
2451 tttcacagcc cgtgaactag cagatgggac tcttttcaaa gcaatagaag actatgaccc 2220
2452 agatagcaag aggatgttac accagttaaa gaagtacgta cctttctttg tgataagaaa 2280
2453 tattgtcatc cgatcatcac ttgctggcct cttgtacgta aaattgtttt gtttaaactc 2340
2454 ctatatcaat tgttcatatg ctttgtcttt cttactataa gaaacaagta taatcagaaa 2400
2455 ccttattatt gattatcagt tctctcctta tattatggaa tgtctttttc gtttacagtt 2460
2456 atgaatgcaa aagggggtat tttagttgat tgattctctc attctctagt ttgttttgac 2520
2457 taatagcgtc aattttgttt ttctagcaaa tctttgtgaa ttatatataa catgctaact 2580
2458 atacttttca ggttgatca tgatgacct gtttttaate ctctgactcc ttgggagaga 2640
2459 ccacctataa aaaatgtatt ttgcatatat ggtgtctatc taaagacaga ggtatgatgc 2700
2460 attctcaata tcacattatg cgttgacttt gtattatat tccccatttg gtttgcaata 2760
2461 tctttttgaa ttatgattta tcttctcctt tgcactttat gctattaagc gttaaaggtta 2820
2462 ctaaattgtat gaagctgtct gtcataaggt ggttattact ttgccccaa gggcaaacct 2880
2463 tatcctgata attggatcat cacggatata atttatgaaa ctgaagggtc cctcgtgtca 2940
2464 aggtaatttt ccgcaatggc agaagtaaaa caggaaggca aagtcctctg tatcagtcta 3000
2465 gtggcatgtt atctcagttg cataagcaaa ttattaaaca actaaaattt aagtactttt 3060
2466 ttatcattcc ttttgagctt agtggatgat cagtggctta aagtgggaag aggtgttgca 3120
2467 tgaacatga cacttgtatc aaagataact agcaaaacaa aactaaccca tttctgaatt 3180
2468 tcatattatt aggagtagtc gtgcttttaa aaaatttgtt ttaagaaacc gaaaaactag 3240
2469 ttcatactct gattgtgcaa tatctgcagg tctggaactg tgggtgatgg gaacgctgga 3300
2470 cctataactg gggatgagac ggtaagctca gaagttgggt ttgaaattat cttcttgcaa 3360
2471 actactgaag actaagataa tacttgcttc tggaacactg cttgctatgt tctctagtac 3420
2472 actgcaatat tgactctccg ctacttttat tgattatgaa attgatctct tataggtacc 3480
2473 ctaccattca ctctcttggt gcaagaattg gctcggacct aaagttaaca taacaatggc 3540
2474 tccccaggta ctctttttta gttcctcacc ttatatagat caaactttaa gtgtactttt 3600
2475 ctgggtattg gttgatttac ctccaatttg tcttttctaa aaatcatata tctctgtact 3660
2476 cctcaagaac ttgtattaat ctaaacgaga ttctcattgg gaaaataaaa caacagccag 3720
2477 aacacgatgg aagcgcagta catgtggaac taaatgttga tcatgagcat gggtcagaca 3780
2478 tcatagctaa catgacaaaa gcaccaaggg ttaagtacat aaccttttat gaagactctg 3840
2479 agagcattcc ggggaagaga accgcagctc gggagcttga taaaagtggg tattaa 3896

```

2482 &lt;210&gt; SEQ ID NO: 31

2483 &lt;211&gt; LENGTH: 709

E--> 2484 <212> TYPE: CDNA → Same Error

2485 &lt;213&gt; ORGANISM: tomato

2487 &lt;400&gt; SEQUENCE: 31

```

2488 ctggggccaa aagtgaacat aacaaggaca ccacagtcag agcatgatgt tcagatgtac 60
2489 aagtgcattc aaatatagag catcaacatg gtgaagatat cattcccaat atgacaaagt 120
2490 tacctacaat gaagtacata acctattatg aggattctga aagttttcca gggacaagaa 180
2491 cagcagtttg ggagcttgat aaagcaaata acaggaacat tgtcagatct ccagctttga 240
2492 tgcgggagct gtggcttgag atgtggcatg atattcatcc tgataaaaag tccaagtttg 300
2493 ttacaaaagg tgggtgtctga tctcactat tttctctat aaatgttga gtttgtattg 360
2494 acattgtaag tattgcaaca aaaagcaaag cgtgggcctc tgagggatga ggactgctat 420
2495 tgggattacg ggaaagctcg atgtgcatgg gctgaacatt gtgaatacag gttagaatat 480
2496 tcaaattata ttttgcaaaa tattctcttt ttgtgtattt aggccacctt tccccgggtc 540
2497 caacgatgca gatattgatt cggggatgtt cacctgggac agagtgcag attgaagagt 600
2498 tctacatctc acatcctgtc acactatgtg tgatatttaa gaaactttgt ttggcggaac 660
2499 aacaagtttg cacaaacatt tgaagaagaa agcgaaatga ttcagagag 709

```

2502 &lt;210&gt; SEQ ID NO: 32

2503 &lt;211&gt; LENGTH: 7

see page - 15

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/937,779A

DATE: 11/18/2005

TIME: 10:08:48

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

2504 <212> TYPE: PRT  
2505 <213> ORGANISM: Conserved Sequence  
E--> 2507 <400> SEQUENCE: 7 32  
E--> 2508 Phe Xaa Lys Trp Val Glu Ala  
2509 1 5  
2517 2/58  
2518 BASF-NAE 33 77 / 99 PCT 12.09.2000  
E--> 2520 1  
2522 1/58  
2523 09/937,779 OA July 13, 2005  
E--> 2524 Dalquist et al.

Invalid Response.  
<213> Can be either  
Artificial, Unknown  
or Genus Species.  
Pls see Item #  
10 on Error  
Summary Sheet.

See page  
Pls Delete.

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/937,779A

DATE: 11/18/2005  
TIME: 10:08:49

Input Set : N:\RJAVED\09937779.txt  
Output Set: N:\CRF4\11182005\I937779A.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 1

VARIABLE LOCATION SUMMARY

PATENT APPLICATION: US/09/937,779A

DATE: 11/18/2005

TIME: 10:08:49

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

*Error explanation*

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.

in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:5; N Pos. 2363

Seq#:7; N Pos. 601,627

Seq#:9; N Pos. 15,45,83,103,107,112,210

Seq#:25; N Pos. 240,385

Seq#:25; Xaa Pos. 41,89

Seq#:26; N Pos. 601,627

Seq#:28; N Pos. 15,45,83,103,107,112,210

Seq#:32; Xaa Pos. 2

## VERIFICATION SUMMARY

DATE: 11/18/2005

PATENT APPLICATION: US/09/937,779A

TIME: 10:08:49

Input Set : N:\RJAVED\09937779.txt

Output Set: N:\CRF4\11182005\I937779A.raw

L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
 L:28 M:283 W: Missing Blank Line separator, <220> field identifier  
 L:337 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:3  
 L:384 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:4  
 L:454 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:5  
 L:497 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:5  
 L:639 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:7  
 L:685 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:7  
 L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:552  
 L:687 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:612  
 L:718 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:9  
 L:722 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:9  
 L:723 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:9  
 L:725 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:9  
 L:737 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:10  
 L:772 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:11  
 L:845 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:12  
 L:2125 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:23  
 L:2172 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:24  
 L:2242 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:25  
 L:2262 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:25  
 L:2262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:215  
 L:2263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:263  
 L:2274 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:359  
 L:2275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:402  
 L:2281 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:26  
 L:2328 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:26  
 L:2328 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:552  
 L:2330 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:612  
 L:2338 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:27 differs:30  
 L:2359 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:28  
 L:2363 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:28  
 L:2364 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:28  
 L:2366 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:28  
 L:2376 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:29  
 L:2411 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:30  
 L:2484 M:310 E: (3) Wrong or Missing Sequence Type, numeric identifier <212>, for SEQ ID#:31  
 L:2507 M:212 E: (34) Invalid or duplicate Sequence ID Number, SEQUENCE ID NOS:32 differs:7  
 L:2508 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:7  
 L:2520 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:7  
 L:2524 M:333 E: Wrong sequence grouping, Amino acids not in groups!  
 L:2524 M:330 E: (2) Invalid Amino Acid Designator, NUMBER OF INVALID KEYS:3  
 L:2524 M:252 E: No. of Seq. differs, <211> LENGTH:Input:7 Found:10 SEQ:32